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(54) **CONSTRAINED-ENVELOPE TRANSMITTER
AND METHOD THEREFOR**

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H04L 27/20

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(57) **ABSTRACT**

A constrained-envelope digital-communications transmitter circuit (22) includes a binary data source (32) that provides an input signal stream (34) to a modulator (77,77'). The modulator (77,77') includes a pulse-spreading filter (76) that filters a phase-point signal stream (50) or a composite signal stream (168) into a modulated signal (74). A constrained-envelope generator (106) generates a constrained-bandwidth error signal stream (108) from the modulated signal (74), and a delay element (138) delays the modulated signal (74) into a delayed modulated signal (140) synchronized with the constrained-bandwidth error signal stream (108). A complex summing circuit (110) sums the delayed modulated signal (140) and the constrained-bandwidth error signal stream (108) into an altered modulated signal (112), and a substantially linear amplifier (146) amplifies the altered modulated signal (112) and transmits it as a radio-frequency broadcast signal (26).

20 Claims, 5 Drawing Sheets

